Amendments to the Claims

Please amend claims 1 and 40. Please add claims 45-52. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently amended) A method for communicating information in a wireless communication system, the method comprising:

allocating at least one reverse link channel of multiple available wireless channels to be [[an]] a shared acknowledgment channel that is continuously allocated for carrying acknowledgment information ~~between~~ from each of multiple field units [[and]] to a base station;

assigning at least one forward link channel for communicating a data payload ~~between~~ from the base station [[and]] to a corresponding field unit; and

transmitting acknowledgment information associated with [[a]] the data payload from the corresponding field unit to the base station over the shared acknowledgment channel.

2. (Original) A method as in claim 1 further comprising the step of:

dividing the acknowledgment channel into multiple time slots.

3. (Original) A method as in claim 2 further comprising the step of:

assigning a time slot of the acknowledgment channel for use by a field unit to transmit acknowledgment information to the base station.

4. (Original) A method as in claim 1, wherein the acknowledgment information is transmitted on an as-needed basis between the base station and corresponding field unit.

5. (Original) A method as in claim 1, wherein field units are allocated multiple forward link channels on an as-needed basis to transmit a data payload from the base station to a

subscriber field unit and a portion of the acknowledgment channel in a reverse link carries feedback messages to the base station.

6. (Original) A method as in claim 2, wherein the data payload includes at least one network message transmitted between processing devices using a network protocol.

7. (Original) A method as in claim 1, wherein a first acknowledgment channel is allocated for use in a forward link and a second acknowledgment channel is allocated for use in a reverse link of the wireless communication system.

8. (Original) A method as in claim 2, wherein the time slots of the acknowledgment channel repeat on a periodic basis.

9. (Original) A method as in claim 2 further comprising the step of:

synchronizing the acknowledgment channel with another channel in a forward or reverse channel of the communication system so that acknowledgment information is transmitted or received in a corresponding time slot.

10. (Original) A method as in claim 1, wherein the acknowledgment information indicates that a data payload was properly received.

11. (Original) A method as in claim 1, wherein the acknowledgment information indicates that a data payload was not properly received.

12. (Original) A method as in claim 2, wherein the time slot includes CRC (Cyclical Redundancy Check) check bits.

13. (Original) A method as in claim 2, wherein acknowledgment information is transmitted in at least two time slots from at least two different field units.

14. (Original) A method as in claim 2, wherein a time slot is implicitly assigned for use by a field unit based upon an assignment of a corresponding channel for transmitting a data payload from the base station to the field unit.

15. (Original) A method as in claim 1 further comprising the step of:

assigning a portion of the acknowledgment channel for use by a field unit to transmit acknowledgment information.

16. (Original) A method as in claim 3, wherein use of an assigned time slot for transmitting messages in a reverse direction is delayed a preselected amount of time after a traffic channel is allocated for transmitting a data payload.

17. (Original) A method as in claim 1, wherein the information communicated in the wireless system includes at least one network message based on TCP/IP (Transmission Control Protocol/Internet Protocol).

18. (Original) A method as in claim 1, wherein at least part of the acknowledgment information is generated at a link layer.

19. (Original) A method as in claim 1, wherein at least part of the acknowledgment information is generated at a transport layer.

20. (Original) A method as in claim 1, wherein the acknowledgment channel is structured to carry information generated at multiple network layers.

21. (Original) A method as in claim 1, wherein the acknowledgment channel is structured to carry generic payload data.

22. (Original) A method as in claim 20, wherein the generic payload data is a maintenance message supporting a link between a field unit and the base station.

23. (Original) A method as in claim 20, wherein the generic payload data would otherwise be transmitted over a traffic channel.

24. (Original) A method as in claim 3 further comprising the steps of:

allocating additional bandwidth to a field unit for transmitting acknowledgment information when throughput capacity afforded by a single time slot is exceeded.

25. (Currently amended) A method as in claim [[23]] 24, wherein the additional bandwidth is at least part of a traffic channel.

26. (Original) A method for communicating information between transceivers of a wireless communication system, the method comprising the steps of:

allocating multiple traffic channels for carrying data messages between transceivers;

at a transceiver that transmits data messages over a traffic channel to a target transceiver, intercepting and decoding data messages intended to be transmitted over a traffic channel to determine their content; and

in lieu of transmitting selected data messages over a traffic channel, encoding the selected data messages into corresponding substitute messages and transmitting the substitute messages over a channel to a target transceiver, the channel structured so that a target transceiver can reconstruct original data messages based on receipt of the substitute messages.

27. (Original) A method as in claim 26, wherein the channel is a shared channel.

28. (Original) A method as in claim 27, wherein the shared channel is used for communicating acknowledgment information.

29. (Original) A method as in claim 27 further comprising the steps of:

at a transceiver, decoding a data message intended to be transmitted to a target transceiver over a traffic channel;

determining that the data message includes acknowledgment information; and

in lieu of transmitting the data message over a corresponding traffic channel, encoding the acknowledgment information and transmitting it in an assigned time slot of the shared channel.

30. (Original) A method as in claim 26, wherein a data message intended to be transmitted over a traffic channel includes at least a portion of a TCP/IP (Transmission Control Protocol/Internet Protocol) data packet.

31. (Original) A method as in claim 26 further comprising the steps of:

generating network packets at a first digital processing device in communication with a first transceiver;

from the first digital device, forwarding the generated network packets to a first transceiver where they are converted into data payloads;

from the first transceiver, transmitting the data payloads to a target receiver;

at the target transceiver, processing a received data payload to retrieve the network messages generated by the first digital processing device;

from the target transceiver, forwarding the retrieved network messages to a second digital processing device in communication with the target transceiver.

32. (Original) A method as in claim 27, wherein the shared channel is partitioned into time slots, each of which is assigned for use by a transceiver to support acknowledgment message transmissions.

33. (Original) A method as in claim 27 further comprising:

reducing a data message in size to form a substitute message and transmitting the substitute message over the shared channel.

34. (Original) A method as in claim 27 further comprising the step of:

dividing the shared channel into time slots.

35. (Original) A method as in claim 34, wherein a time slot is structured to include a data field of bits that indicate an ACK (Acknowledge) or NAK (No Acknowledge) message.

36. (Original) A method as in claim 35, wherein the ACK or NAK message is originally generated at a network layer.

37. (Original) A method as in claim 34, wherein the time slot includes network packet information of a layer 2 ACK (Acknowledge) or NAK (No Acknowledge).

38. (Original) A method as in claim 34, wherein the time slot includes layer 4 session source information identifying a transport layer session to which a network packet pertains.

39. (Original) A method as in claim 34, wherein the time slot includes CRC (Cyclical Redundancy Check) check bits.

40. (Currently amended) A method for communicating information in a wireless communication system, the method comprising:

allocating at least one reverse link channel of multiple available wireless channels to be a shared feedback channel that is continuously allocated for carrying feedback information ~~between~~ from each of multiple field units [[and]] to a base station;

assigning at least one forward link channel for communicating a data payload ~~between~~ from the base station [[and]] to a corresponding field unit; and

transmitting the feedback information associated with [[a]] the data payload from the corresponding field unit to the base station over the shared feedback channel.

41. (Original) A method as in claim 40 further comprising the step of:

dividing the feedback channel into multiple time slots.

42. (Original) A method as in claim 41 further comprising the step of:

assigning a time slot of the feedback channel for use by a field unit to transmit feedback information to the base station.

43. (Original) A method as in claim 40, wherein the feedback information is transmitted on an as-needed basis between the base station and corresponding field unit.

44. (Original) A method as in claim 40, wherein field units are allocated multiple forward link channels on an as-needed basis to transmit a data payload from the base station to a field unit and a portion of the feedback channel in a reverse link carries feedback messages to the base station.

45. (New) A system for communicating information in a wireless communication system, comprising:

a base station processor allocating at least one reverse link channel of multiple available wireless channels to be a shared acknowledgment channel that is continuously allocated for carrying acknowledgment information from each of multiple field units to a base station;

the base station processor assigning at least one forward link channel for communicating a data payload from the base station to a corresponding field unit; and

a subscriber unit processor transmitting acknowledgment information associated with the data payload from the corresponding field unit to the base station over the shared acknowledgment channel.

46. (New) The system as in claim 45 wherein the base station processor divides the shared acknowledgment channel into multiple time slots and assigns a time slot of the

acknowledgment channel for use by a field unit to transmit acknowledgment information to the base station.

47. (New) A system for communicating information between transceivers of a wireless communication system, comprising:

a first transceiver;

a target transceiver;

the first transceiver intercepting and decoding data messages intended to be transmitted over a traffic channel to the target transceiver in order to determine their content; and

in lieu of transmitting selected data messages over the traffic channel, the first transceiver encodes the selected data messages into corresponding substitute messages and transmits the substitute messages over a channel to the target transceiver, the channel structured so that a target transceiver can reconstruct original data messages based on receipt of the substitute messages.

48. (New) The system as in claim 47 wherein the channel is a shared channel that is partitioned into time slots, each of the time slots being assigned for use by a transceiver to support acknowledgment message transmissions.

49. (New) A system for communicating information in a wireless communication system, comprising:

a base station processor allocating at least one reverse link channel of multiple available wireless channels to be a shared feedback channel that is continuously allocated for carrying feedback information from each of multiple field units to a base station;

the base station processor assigning at least one forward link channel for communicating a data payload from the base station to a corresponding field unit; and

a subscriber unit processor transmitting the feedback information associated with the data payload from the corresponding field unit to the base station over the shared feedback channel.

50. (New) The system as in claim 49 wherein the base station processor divides the feedback channel into multiple time slots and assigns a time slot of the feedback channel for use by a field unit to transmit feedback information to the base station.

51. (New) The method of claim 1 wherein by transmitting acknowledgment information associated with the data payload from the corresponding field unit to the base station over the shared acknowledgment channel, the utilization of bandwidth resources in the wireless communication system is enhanced.

52. (New) The method of claim 40 wherein by transmitting the feedback information associated with the data payload from the corresponding field unit to the base station over the shared feedback channel, the utilization of bandwidth resources in the wireless communication system is enhanced.